4/28/72

ANALYSIS OF ENVIRONMENTAL IMPACT

K-1407-B Holding Pond:

415-8-8
72:50876

The purpose of the proposed project is to reduce the environmental impact on Poplar Creek of liquid effluents discharged from the K-1407-B Holding Pond. Because the effluent from the holding pond discharges into Poplar Creek, several pollution problems presently exist. These problems include the discharge of uranium compounds, nitrates, and oil, as well as significant variations in pH and total dissolved solids in the effluent.

A description of the proposed action to alleviate these problems is included in Section 8 entitled "Brief Physical Description of Project." There are no adverse environmental impacts which will occur as a result of this problem.

An alternative to the proposed action would be to continue usage of the present facilities which allows for no chemical treatment of the effluent. Without chemical treatment, the K-1407-B effluent will potentially conflict with state water pollution regulations which pertain to pH variations and total dissolved solids. For the long term, the proposed project could have the added advantage of insuring compliance with anticipated future water pollution regulations which pertain to nitrate concentrations in streams classified for fish and aquatic life.

There are no irreversible or irretrievable commitments of resources or any known potential conflicts with the state, regional, or local plans for environmen controls which will occur as a result of this project.

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APPROVAL FOR RELEASE

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Title/Subject ANALYSIS OF ENVIRONMENTAL IMPACT
by JG Rogers (4 pages)

Approval for unrestricted release of this document is authorized by the Oa Ridge K-25 Site Classification and Information Control Office, Marti Marietta Energy Systems, Inc., PO Box 2003, Oak Ridge, TN 37831-7307.

K-25 Classification & Information Control Officer

1/26/93
Date

K-1413 Pilot Plant:

The purpose of the proposed project is to reduce the environmental impact on Poplar Creek of liquid effluents discharged from the K-1413 Pilot Plant. Because the effluent from K-1413 discharges into Poplar Creek, several pollution problems presently exist. These problems include significant pH variations, high biological oxygen demand (BOD), and various dissolved and suspended solids.

A description of the proposed action to alleviate these problems is included in Section 8 entitled "Brief Physical Description of Project." There are no adverse environmental impacts which will occur as a result of this project.

An alternative to the proposed action would be to continue usage of the present facility without chemical treatment of the effluent. This alternative will potentially conflict with state water pollution regulations which pertain to pH variations, total dissolved oxygen, and total dissolved solids. Another alternative would include the installation of a somewhat smaller treatment facility at K-1413 instead of the proposed method of pumping the effluent 3600 ft. to a similar but larger treatment facility already planned at the K-1231 building. However, an estimated 25% cost savings can be realized by pumping the K-1413 effluent to the K-1231 treatment facility as compared with the installation of a similar treatment facility at K-1413.

There are no irreversible or irretrievable commitments of resources or any known conflicts with existing or anticipated future state, regional, or local plans for environmental controls which will occur as a result of the project.

K-1203 and K-710 Sewage Disposal Plants:

The purpose of the proposed project is to reduce the environmental impact on Poplar Creek of liquid effluents discharged from both the K-1203 and K-710 Sewage Disposal Plants. The sewage plants will be designed to reduce the biological oxygen demand (BOD) at least 85% and the suspended solids approximately 90%. This is accomplished through the use of both primary and secondary treatment. In addition, provisions for chlorination of the effluent will be provided in accordance with state requirements. A description of the proposed project is included in Section 8 entitled "Brief Physical Description of Project."

An alternative to the proposed action would be to continue usage of the present facilities which provide only primary treatment of the sewage effluents. The existing primary treatment facilities reduce the BOD by approximately 55%. However, this alternative will conflict with existing state regulations which require that a sewage disposal plant contain both primary and secondary treatment facilities. The existing primary treatment facilities incorporate Imhoff tanks which are not designed for use in conjunction with a secondary treatment; specifically, there are no provisions for sufficient settling or sludge removal. Therefore, the most feasible alternative is to construct a new 400,000 GPD sewage disposal plant to replace K-1203 and install a 20,000 GPD package treatment facility to replace K-710.

There are no adverse environmental impacts which will occur as a result of this project. Also, there are no irreversible or irretrievable commitments

of resources or any known conflicts with existing or anticipated future state, regional, or local plans for environmental controls which will occur as a result of the project.

JGR:mh

4/28/72